

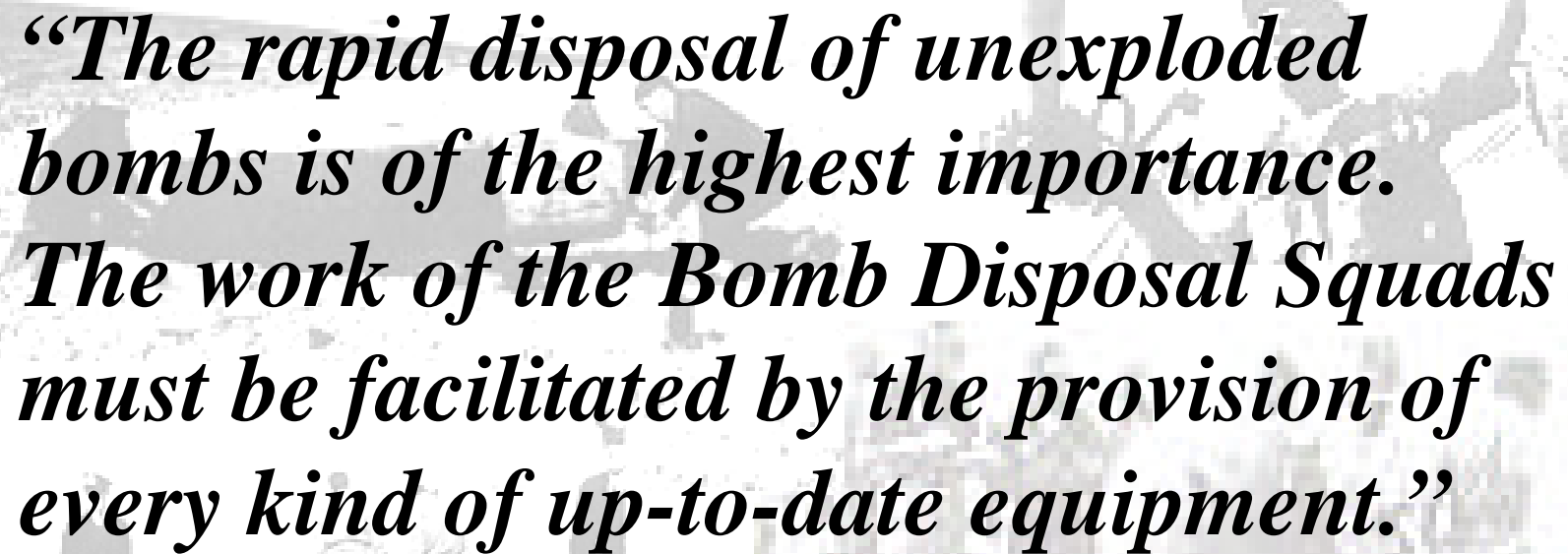
Advanced Concept Technology Demonstration (ACTD) FY02 Candidate



Joint Explosive Ordnance Disposal Knowledge Technology Operational Demonstration (JEOD-KTOD)

***BMCM Ken Falke
EOD Group ONE***

Introduction



“The rapid disposal of unexploded bombs is of the highest importance. The work of the Bomb Disposal Squads must be facilitated by the provision of every kind of up-to-date equipment.”

**Sir Winston Churchill
21 Sept 1940**

Providing “Force Protection” since 1940

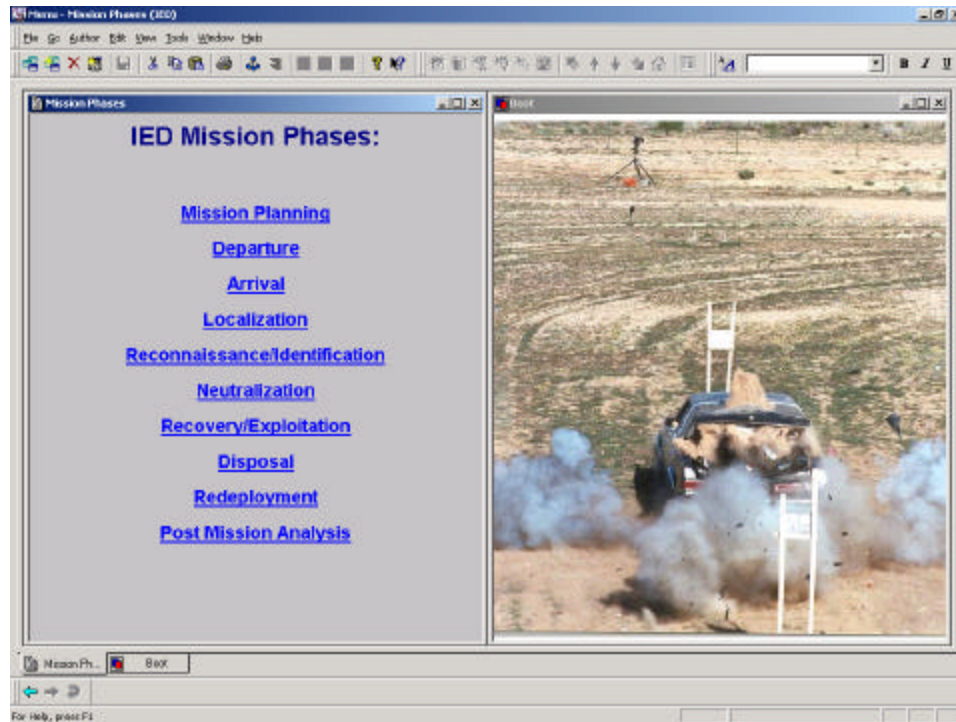
Overview

<i>Needs</i>	<i>Proposed Solutions</i>
<p><u>Sophisticated Asymmetrical Threats</u></p> <ul style="list-style-type: none">➤ Exposure of EOD warfighters to increasingly sophisticated terrorist devices➤ Ineffective diagnostics capabilities for current CBR threats➤ Inadequate render safe tools for sophisticated electronic fuzing systems➤ Lack of up-to-date tools protection for sophisticated terrorist threats <p><u>Inadequate EOD-Related Information Support</u></p> <ul style="list-style-type: none">➤ EOD technician 'on the ground' must make decisions using individual knowledge base➤ Less than 50% of world-wide threat ordnance has EOD publication coverage➤ Current process for formalizing EOD procedures takes 1 to 10 years➤ EOD operations are not part of theater commander's operational picture	<p><u>Technology Tools For EOD Warfighters</u></p> <ul style="list-style-type: none">➤ Robotics - EOD warfighter away from the hazard➤ Advanced Diagnostics - Real time digital radiography, explosive detection, CBR detection and spectrometry, sophisticated sensor detection, electronic circuit analysis.➤ Enhanced render safe capability surgical and general procedures for sophisticated terrorist devices.➤ Personnel protective equipment <p><u>EOD Information Collaboration</u></p> <ul style="list-style-type: none">➤ Reach-back Network: EOD warfighter to SME➤ Near real-time TTP generation and dissemination network➤ EOD situational awareness and C4ISR

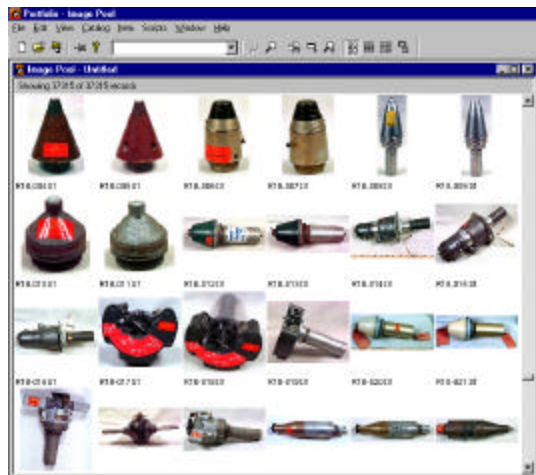
EOD Technologies

<i>EOD Tasks</i>	<i>Technologies</i>
Mission Planning/ Situational Awareness	Advanced EOD Publication System (AEODPS) EOD Decision Support System (DSS)
Access	Man Transportable Robotics System (MTRS) Next Generation EOD Robot
Diagnostics	RF Advanced Radiographic System ION Track Non-Intrusive Filler Detector
Render-Safe	PAN Disrupter Large IED Tools Low Order Tools
Post Mission Analysis	EOD Decision Support System (DSS)

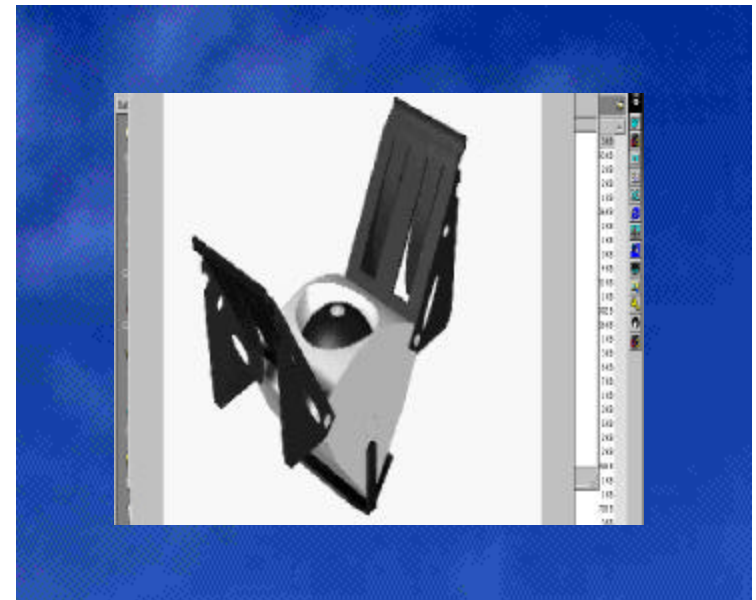
Mission Planning/ Situational Awareness



EOD Decision Support System (DSS)



**Advanced EOD Publication
System (AEODPS)**





TALON



NEXT GENERATION
EOD ROBOT (FY04-05)

Access

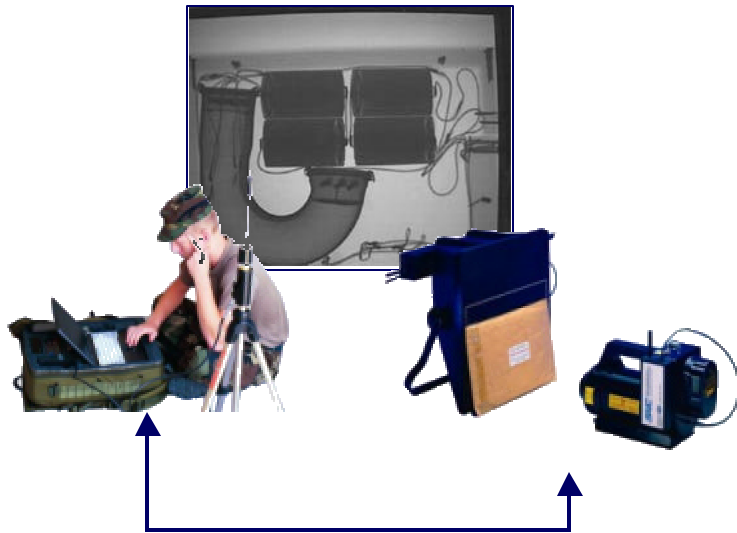


Man Transportable
Robotic System (MTRS)

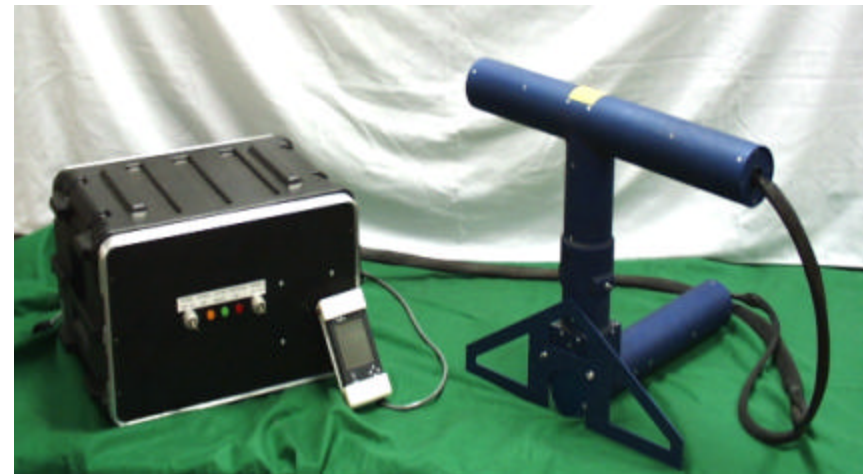
Diagnostics



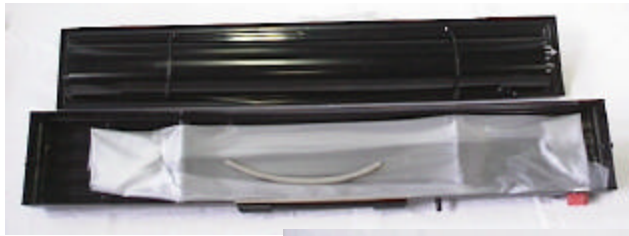
ION TRACK



RF Advanced Radiographic System



Non-Intrusive Filler Detector



Large IED TOOLS

Render-Safe

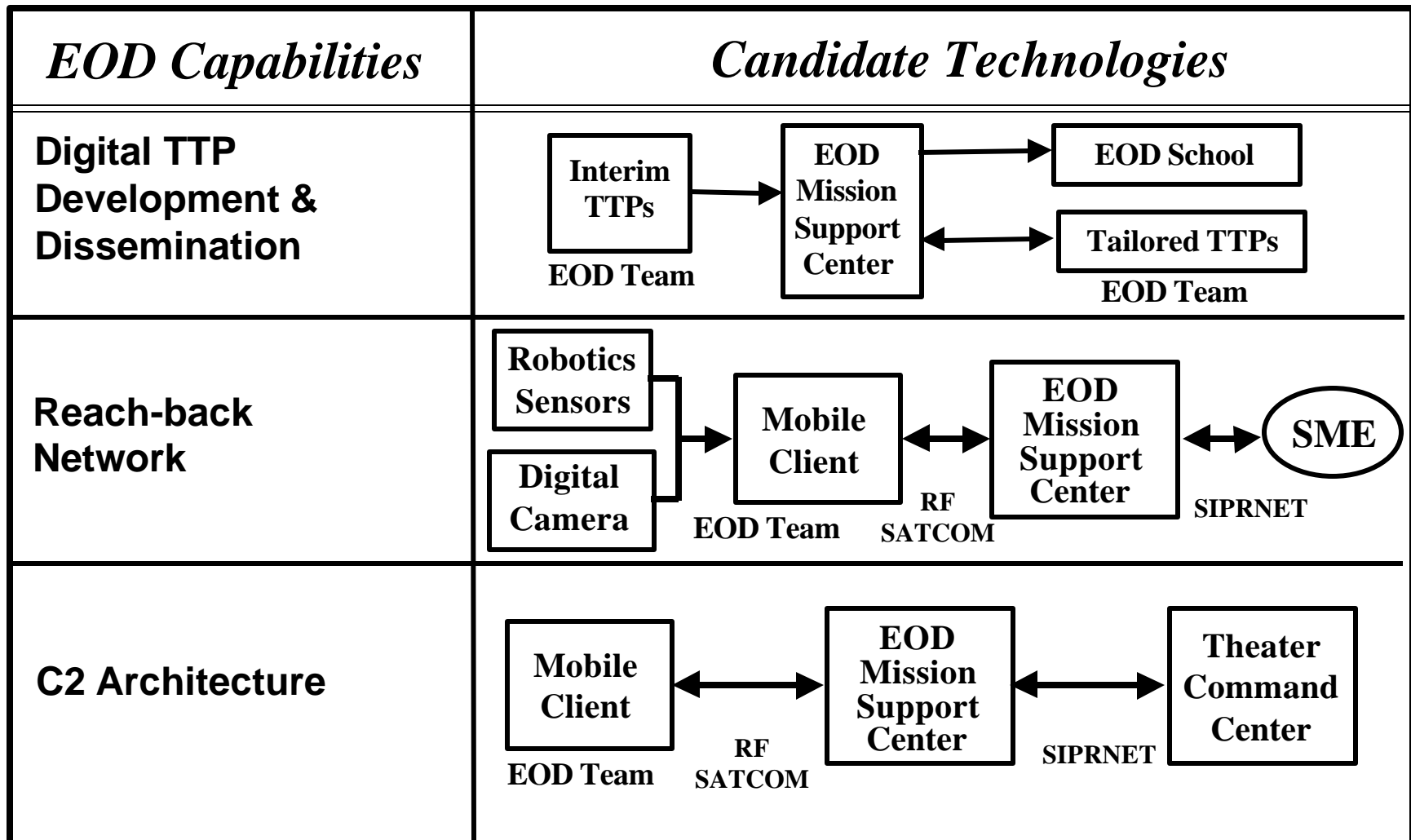


PAN Disrupter

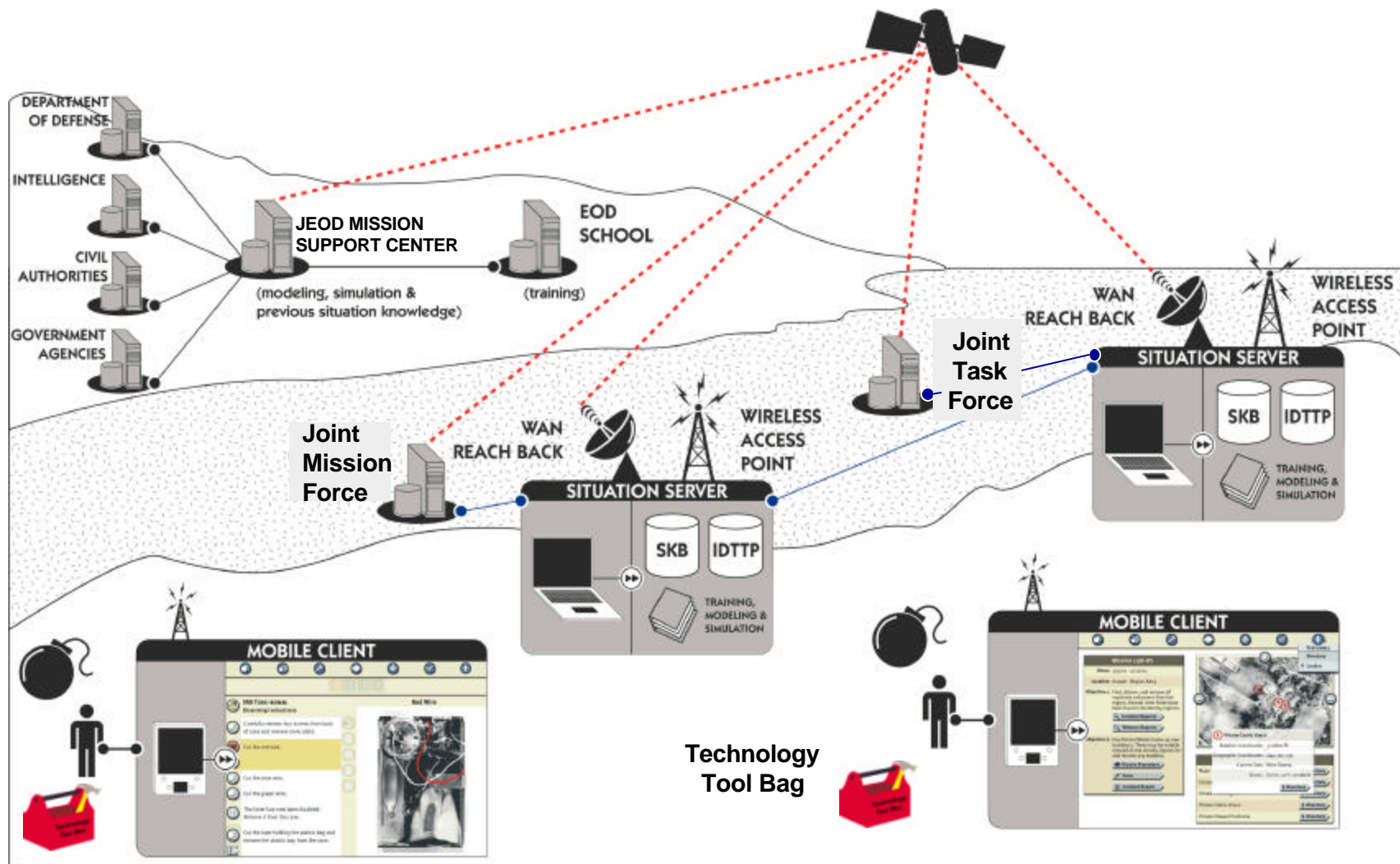


LOW-ORDER TOOLS

Candidate EOD Technologies

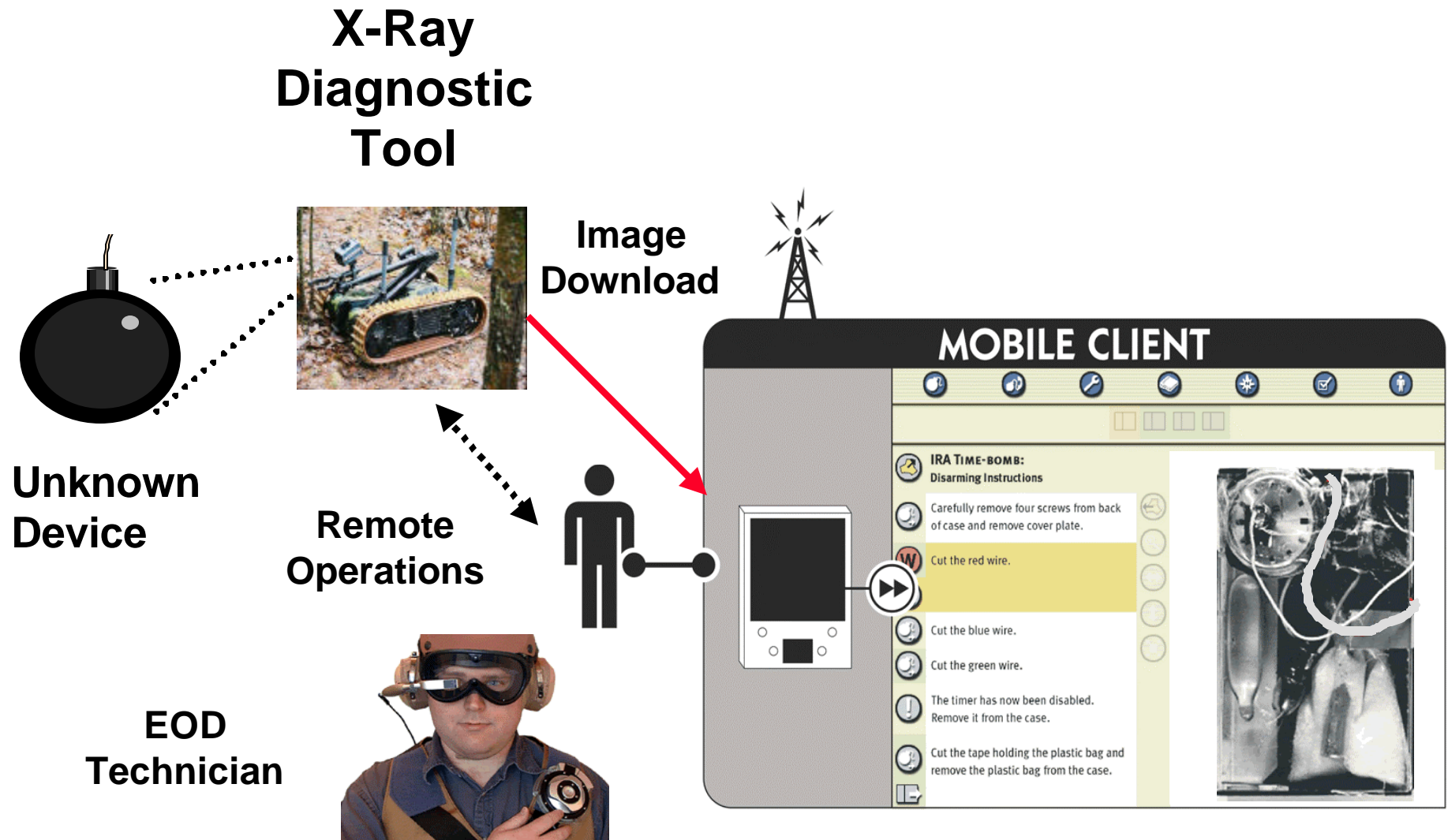


Concept of Operations



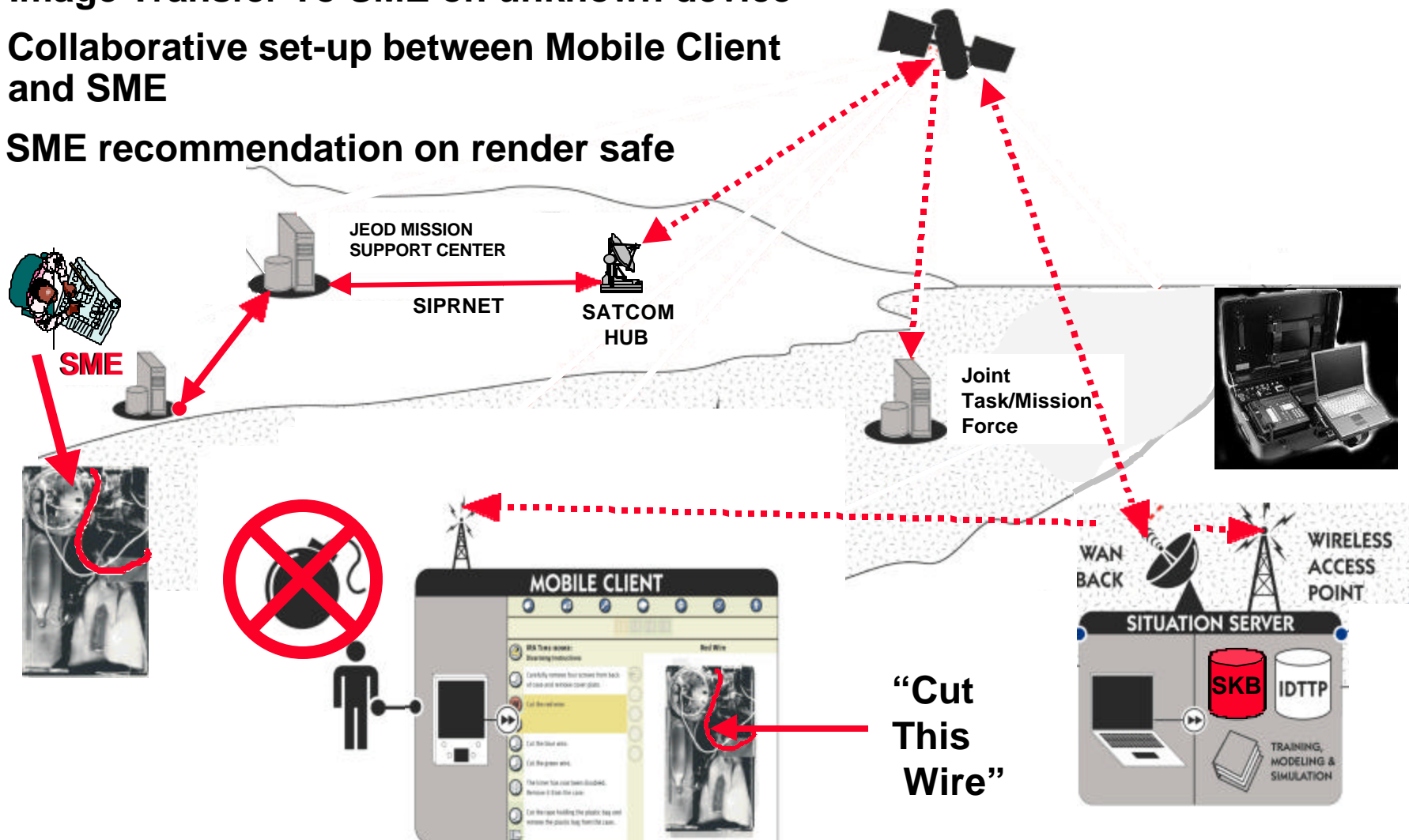
*An integrated EOD system for a quantum leap
in EOD warfighting capabilities*

Reach-back Scenario



Reach-back Scenario

1. Image Transfer To SME on unknown device
2. Collaborative set-up between Mobile Client and SME
3. SME recommendation on render safe



Demonstration Plan

- **Initial CONOPS development**
- **Select EOD tools for utility demonstrations:**
 - ◆ Off-the-shelf and interim developmental equipment with demonstrated technical capabilities;
 - ◆ Demonstrate utility as improved capability for EOD technician
- **Set up a Joint EOD Mission Support Center (JEMSC)**
- **Integrate and demonstrate reach-back network capabilities**
 - ◆ Interface Mobile Client equipment with digital diagnostic sensors, imaging equipment and existing data network
 - ◆ Demonstrate utility in training exercises, EOD and CINC exercises, and selected real world events
- **Integrate and demonstrate JTTP generation and dissemination capabilities**
 - ◆ Integrate software into Mobile Client, Situation Server and JEMSC
 - ◆ Demonstrate utility
- **Integrate and demonstrate C2 capabilities**
 - ◆ Integrate Mobile Client, Situation Server and JEMSC to JTF
 - ◆ Demonstrate utility

Assessment Plan

Objectives

- Assess utility of EOD tools, reach-back network and JTTP system to improve performance of EOD mission essential tasks (METs)
- Assess utility of near-real time JTTP generation and dissemination
- Assess utility of EOD C2 with COP capabilities

Measures

- Reduce time and safety risks to EOD personnel in performing METs
- Reduce time of area denial to and increased personal safety of ground forces
- Reduce time for JTTP generation/dissemination of new threat device diagnostics, render-safe and disposal
- Increased EOD force employment efficiencies for supporting joint force operations

Players

USPACOM (sponsor)



EOD Group ONE (OM)



NAVEODTECHDIV (TM)



Det 1 AFOTEC Assessment Team



PMS-EOD (XM)

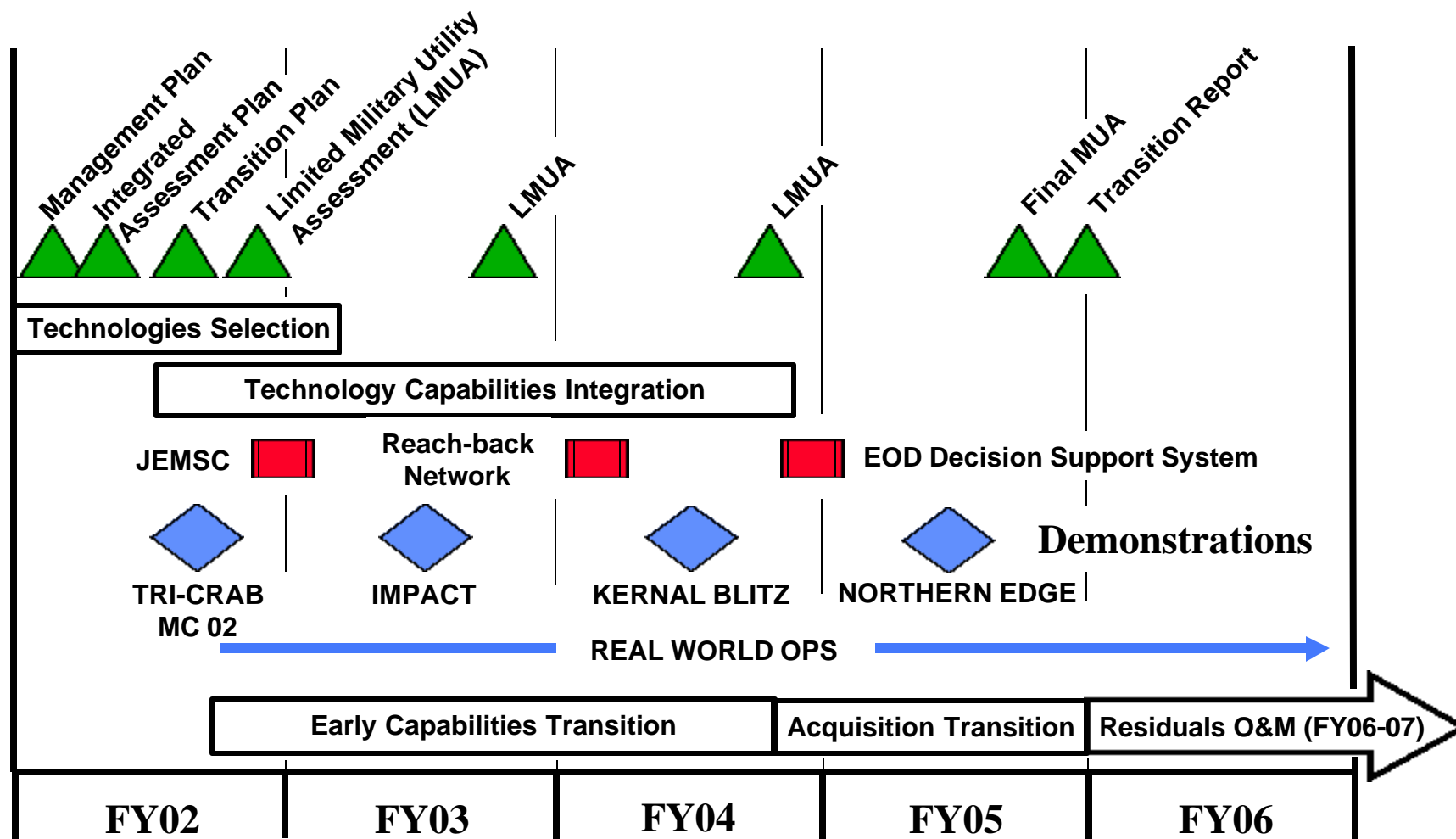


DOD EOD Program Board



Joint EOD community participation

Schedule



Residuals

Technology Tools

- Early limited utility assessments for early acquisition decisions
- Provide interim CONOPS and JTTP
- Field residuals to high threat operational EOD units and EOD training facilities

Reach-back, JTTP and EOD C2 Capability

- CONOPS, JORD and supporting data for acquisition decisions
- Field interim capability to operational EOD units

Joint EOD Mission Support Center

- Field interim capability to support operational EOD units
- Provide supporting data for improvements based on utility assessment recommendations

Funding Sources

(\$1M)

	FY02	FY03	FY04	FY05	FY06	FY07	Total
ONR (NAVEODTECHDIV) PE0602315N	2.95	2.25	2.0	1.7			8.9
OASD (SO/LIC) PE0603121D8Z	.81	0	0	0			.81
PEO MUW/Q0377 (PMS EOD) PE0603654N	4.6	4.7	4.8	4.9			19
OUSD AT&LS&T S/LW PE0603709D8Z	4.8	4.8	4.8	4.8			19.2
PEO MUW/Q1829 (PMS EOD) PE0604654N	2	2	2	2			8
Sub-Total	15.16	13.75	13.6	13.4			55.91
DUSD	2	4	4	4	.5	.5	15
Total	17.16	17.75	17.6	17.4	.5	.5	70.91

**Leveraging EOD technology development
for EOD warfighter near-term needs**

Risks

Technical (Low)

- Minimal since planned technologies are sufficiently mature for demonstrations
- Potential interoperability issues between commercial and military systems, and with coalition force systems

Management (Low)

- Availability of technology tools from participating agencies
- EOD Mission Support Center multi-service manning
- Data releasability to coalition forces

Funding (Low)

- Minimal based on current agreements